# Jordan Mitacek

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## Education

**Stony Brook University – Stony Brook, NY** **Expected May 2026**
B.S. Computer Science – GPA: 3.3/4.0

**Suffolk County Community College – Selden, NY** **Graduated May 2024**
A.S. Computer Science – GPA: 3.9/4.0

## Skills

- **Systems Programming:** C, C++, Assembly (MIPS, x86), Linux/Unix development, multithreading, networking, device drivers, EPICS & IOCs
- **Graphics & Multimedia:** OpenGL, GLSL, GLFW, OpenAL, SDL2, SDL_mixer, Raylib
- **Testing & Debugging:** Criterion, GDB, Valgrind, Gprof, Visual Studio, NVIDIA Nsight Graphics
- **Miscellaneous:** Build systems (Make, CMake), scripting (Bash, Python, Lua), Git, Qt, Vim, tmux, LaTeX

## Experience

**Systems Integration Intern – Brookhaven National Laboratory, Upton, NY** **August 2024 – Present**

- Designed and implemented a custom interpreter for the Deposition Laboratory's control system, enabling EPICS-compatible scripting to streamline experiment automation and device communication
- Developed Python and C++ bindings for interfacing with EPICS IOCs (Input/Output Controllers), enhancing system flexibility and reducing maintenance overhead
- Engineered a custom GUI (Qt-based) for chamber status monitoring and user control, improving accessibility for researchers
- Developed remote script execution using Bluesky Queue Server, allowing researchers to submit and execute experiment scripts remotely with asynchronous job scheduling and real-time status tracking

**Computer Science Tutor – Suffolk County Community College, Selden, NY** **October 2023 – May 2024**

- Provided one-on-one tutoring in programming languages (Java, C, C++, JavaScript, HTML, CSS, MIPS Assembly) and core CS concepts (data structures, algorithms, object-oriented programming, design patterns)
- Assisted students in debugging code, understanding complex algorithms, and improving coding practices

## Projects

**Game Boy Emulator** **C++, OpenGL, SDL2, Qt**

Emulator built from scratch to provide accurate emulation of the original Game Boy hardware.

- Implements accurate CPU emulation, memory mapping, graphics emulation, and sound playback through SDL2 and SDL_mixer
- Provides customizable controller bindings supporting various input devices via SDL2 game controller API
- Features a Qt-based GUI overlay for configuring emulator settings including: ROM loading, save state management, audio/video configuration, and controller mapping
- Designed for cross-platform portability and high performance with an OpenGL-based rendering backend

**Ray Casted Game Engine** **C++, OpenGL, SDL2, ImGui**

Custom 3D ray casting engine featuring real-time rendering, level editing, and ImGui-driven development workflow.

- Implements a full ray casting renderer with textured walls, face-based shading, and input handling
- Includes a custom level editor with: texture support, wall height configuration, object/entity placement, and player spawn customization
- Integrates ImGui for both in-game UI and editor tooling, enabling: entity property editing, live parameter tuning, texture atlas browsing, and save/load project state